Trans-Lake Washington Project EIS Methodology Report – 6/10/02

Introduction

This report describes the methodologies that will be used to assess impacts and identify mitigation measures for the four alternatives to be analyzed in the Trans-Lake Washington Project Environmental Impact Statement (EIS). Each element of the environment is discussed separately and identifies the following:

- Guiding plans and policies
- Data needs and sources
- Proposed coordination with agencies
- Proposed coordination with Team, WSDOT, and Sound Transit
- Study Area
- Affected Environment Methodology
- Environmental Consequences Methodology
- Mitigation Measures Methodology

Guiding Plans and Policies

Washington Department of Transportation (WSDOT), Sound Transit, Federal Highways Administration (FHWA), and Federal Transit Administration (FTA) are co-lead agencies of the Trans-Lake Washington Project EIS. The plans and policies identified below will guide the overall project and analysis for each element of the environment.

- National Environmental Policy Act, 42 USC 4231-4347
- 23 CFR 771
- State Environmental Policy Act, Chapter 43.21 RCW
- Washington State Department of Transportation (WSDOT), Environmental Procedures Manual M 31-11, July 2001
- Federal Highway Administration (FHWA), Technical Advisory T6640.8A, October 1987
- Sound Transit SEPA Rules (Resolution #R7-1)

Plans and policies related to specific elements of the environment are described in later chapters.

Project Area and Study Area

The project area for the Trans-Lake Washington Project is the SR 520 corridor from Seattle to Redmond. The study areas for each element of the environment will vary, depending on the nature of the element, and are described for each element in the following chapters.

Alternatives

The alternatives to be analyzed in the EIS include:

- No Action Alternative – SR 520 would remain as it exists today.
- Four-lane Alternative (Safety and Preservation) – replacing the floating bridge, Portage Bay Viaduct, and floating bridge approach spans of SR 520 with a four-lane facility, bicycle and pedestrian facilities, and shoulders built to current WSDOT/FHWA standards. This alternative would also include aggressive transportation demand management (TDM) strategies and noise mitigation.
- Six-lane Alternative – includes facilities mentioned above and add one HOV/BRT lane in each direction, making SR 520 a six-lane facility.
- Eight-lane Alternative – includes facilities described in four-lane alternative and add one general purpose lane and one HOV/BRT lane in each direction, making SR 520 an eight-lane facility.

EIS Documentation

The Trans-Lake Washington Project EIS will be prepared at a project-specific level of analysis. The EIS will consist of four main chapters:

Chapter 1 – Summary

Chapter 2 – Project Alternatives

Chapter 3 – Affected Environment and Environmental Consequences

Chapter 4 – Indirect and Cumulative Impacts

Each element of the environment will be described in a separate section within Chapter 3 that will describe the Affected Environment, Environmental Consequences, and Mitigation Measures. The environmental elements within Chapter 3 will include:

- Transportation
- Navigation
- Air Quality
- Cultural Resources
- Ecosystems (including fish resources, vegetation and wildlife, wetlands, and threatened and endangered species)
- Energy
- Geology and Soils
- Hazardous Materials
- Land Use and Economics
- Noise
- Public Services and Utilities
- Recreation
- Relocations
- Social (including a summary of the Environmental Justice Appendix)
- Visual Quality
- Water Resources (including surface water, floodplains, and groundwater)

In addition to the EIS document, more detailed discipline reports will be prepared for the following elements:

- Cultural Resources
- Ecosystems
- Noise and Vibration
- Transportation
- Visual Quality
- Water Resources

The following additional analyses will accompany the EIS as appendices or related documents:

- Environmental Justice Appendix
- Navigational Studies
- Section 4(f)/6(f) Resources Evaluation

Indirect and Cumulative Impacts

The discussion of indirect and cumulative impacts will be included in a separate chapter of the EIS rather than as a section in the environmental consequences discussion for each environmental element.

Use of GIS

Geographic Information System (GIS) will support the EIS through the analysis and tabulation of resources and the calculation of potential impacts on those resources that occur within the study areas of the various environmental elements. GIS activities will be conducted in three tasks: data compilation, data analysis, and data presentation.

Data Compilation

A regional GIS database has been compiled for the Trans-Lake Washington Project to support alternatives identification. Impact assessment will require the additional compilation of mapped features at greater detail than was previously collected. Resource analysts will collect geospatial information within the affected areas through methods that include map interpretation and field data collection, including locating resources using Global Positioning Systems (GPS). This geospatial information will be input as map layers into the GIS, registered to a common coordinate system.

In addition, the proposed alternatives will be entered into the GIS from CAD design drawing files. The alternatives will be represented as centerlines and as polygon features that indicate the footprint and rights-of-way. Each alternative will be given a unique identification code to facilitate reporting and comparison of alternatives.

A GIS web site will be established to allow the project team to access the maps and query the GIS database.

All GIS data layers will be documented as to their sources, mapping specifications, and contents.

Data Analysis

GIS staff will work with resource analysts to identify GIS analytical techniques that may be used to more effectively represent resource locations and potential impacts. A common analytical technique will be used to overlay the proposed alternatives with mapped resources (e.g., wetlands, habitat, historic sites) to quantify the potential impacts to resources.

Data Presentation

The inventory of geospatial information and the results of GIS analyses will be presented in both map and report form. Map figures for the EIS will be compiled into a separate map folio or atlas, composed of 11 x 17 inch pages. The project area will be divided into geographic tiles spread over several pages in the folio to represent each area at a suitable scale. A list of map figures will be developed.

Proposed Coordination with Agencies

Members of the Technical Committee and affected Tribes will be asked to review and comment on the Trans-Lake Washington Project methodologies. Input received in a timely manner will be considered and methodology revised as considered necessary and appropriate.

Not Included in this Report

The Trans-Lake Washington Project EIS will include a Navigation section. The methodology for the navigation analysis was prepared and completed with U.S. Coast Guard coordination in 2001, and therefore is not included in this report. The Navigation chapter will summarize the Lake Washington Navigational Study (August 2001) in the Affected Environment section, and will evaluate the direct and indirect impacts to navigation in a manner similar to the analysis of environmental consequences for the environmental elements.